

Project Documentation as a Risk for Public Projects

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Abstract

Purpose of the article: The paper presents the different methodologies used for creating documentation and focuses on public projects and their requirements for this documentation. Since documentation is also incorporated in the overall planning of the project and its duration is estimated using expert qualified estimate, can any change in this documentation lead to project delays, or increase its cost as a result of consuming administration, and therefore the documentation is seen as a risk, which may threaten the project as a public contract by which a company trying to achieve and obtains it, and generally any project.

Methodology/methods: There are used methods of obtaining information in this paper. These are mainly structured interviews in combination with a brainstorming, furthermore also been used questionnaire for companies dealing with public procurement. As a data processing program was used MS Excel and basic statistical methods based on regression analysis.

Scientific aim: The article deals with the construction market in the Czech Republic and examines the impact of changes in project documentation of public projects on their turnover.

Findings: In this paper we summarize the advantages and disadvantages of having project documentation. In the case of public contracts and changes in legislation it is necessary to focus on creating documentation in advance, follow the new requirements and try to reach them in the shortest possible time.

Conclusions: The paper concludes with recommendations on how to proceed, if these changes and how to reduce costs, which may cause the risk of documentation.

Keywords: documentation, project, risk, public project, construction market

JEL Classification: G32

Introduction

The construction market in the Czech Republic is characterized by a number of public projects (procurement). There are invited the tenders for construction companies – public projects – and the company may then seek to obtain them. In order to get this contract there is a set of necessarily required documentation, this documentation must be submitted within a certain deadline for tenders. The necessity for obtaining a public contract is also project documentation, since public contract is a project. Part of project documentation is risk management, including risk identification, risk quantification, the choice of measures and determination of the cost of risk plan. Creating the documentation is in itself a risk with which should be expected. Any change in the project documentation is then a risk for the entire company, which implements the project.

The following paper presents the basic concepts associated with the project documentation, as well as the risk, which provides this documentation and focuses on the construction market in the Czech Republic and procurement, as an example of a project with required documentation by the Construction Act and in the manner of a public contract.

The construction market also plays an indispensable role in human settlements and various employment issues (Spence, Mulligan, 1995) and therefore is important to deal with this market and identify risks that threaten him.

It is recognised that the construction market has strong connections with other sectors and markets (Chan, 2001; Ofori, Han, 2003) and therefore it is very important to monitor what proportion of that market orders have and focus on their turnover.

1. Literature review

Taking into account the fact that many projects fail on poorly drafted and elaborated budget and other financial plans (Zvejšková, 2013) the project management is becoming more and more integrated into organisation of all kind all over the world. About one third of the economic activity takes place in projects and the percentage is growing (Bredillet, Turner, Anbart, 2007).

Project documentation conveys the right information to the right person at the right time. Average effort necessary for successful completion of the project is the largest in pre-project phase (Koleňák, Smolíková, 2013). Documentation is corporate communication and memory. Every project needs it,

otherwise the work cannot be replicated or fully understood. Everyone working on a technical project spends a lot of time preparing documentation. Documentation is a form of communication and occupies between 50% and 80% of your time on a project (Fowler, Silver, 2015).

In all European countries, the public national bodies in charge of supervision, monitoring, inspection, control and administrative authorization of the construction projects have to elaborate an increasing number of new legal dispositions and regulations to be applicable in the construction works (standards for environment care, security and health, prevention of fires, urbanism and so on) (Mena *et al.*, 2010).

A correctly prepared documentation that bidders receive in tender proceedings is a condition of the contractor's submission of a tender that fulfils the client's requirements (Jusczyk *et al.*, 2014).

2. Public procurement and documentation

2.1 Public procurement in Czech Republic

Public procurement is subject to the Public Procurement Act No. 137/2006 and are also affected by directives from the European Union, the most recent changes took place March 28, 2014, when they were in the EU's Official Journal published a new directive on public procurement. These are the following directives:

- Directive of the European Parliament and Council Directive 2014/24 / EU of 26 February 2014 on public procurement and repealing Directive 2004/18 / EC.
- Directive of the European Parliament and Council Directive 2014/25 / EU of 26 February 2014 on the procurement procedures of entities operating in the water, energy, transport and postal services and repealing Directive 2004/17 / EC.
- Directive of the European Parliament and Council Directive 2014/23 / EU of 26 February 2014 on the granting of concessions.

Czech Republic is obliged to transform these directives into legal expiry of the period to 18 April 2016. As early as the end of 2014 should be prepared a draft law on public procurement in paragraph wording (Štěpánková, 2014). Public projects account for more than half of the procurement market. Increasing the efficiency of public construction projects is a critical area of research activity (Ko, Li, 2014).

However, the public sector cannot be seen to have close relationships with private parties as it may imply cronyism (Ling, Tran, 2012; Ning, Ling, 2013). The widespread practice of open tenders to procure

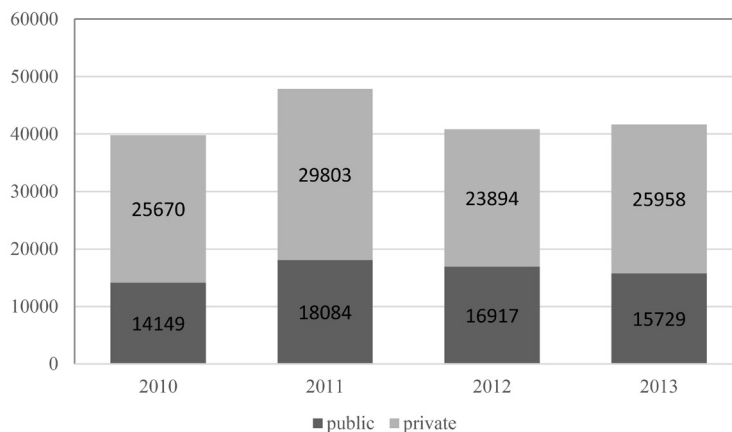


Figure 1. Public procurement 2010–2013. Source: Czech statistical office.

services and products in public projects puts high priority to bidders' merit, capability and tendering price rather than on previous partnerships (Jones, 2002). These factors may affect companies which are interested in public contracts and due to cronyism, or other practices, the realization of public contract is not given to the best and most advantageous company.

The following figure shows amount of public procurements, it is around 35% of the volume of implemented construction works and therefore is very important to address public contracts and their development.

2.2 Project documentation

Project documentation understands summary documents prepared in order to promote quality of the implementation of the project. The aim is to express textual documentation, graphical and other resources important facts about the design and implementation of the project.

No project can be realized without project documentation. Properly maintained documentation will not only save time, but most of the problems. For example, in large projects the team members may change, new members can be through documentation soon in the picture.

Documentation provides the exchange of project information between all stakeholders and team. Documentation also helps in process of assessing a project and avoids errors in the future. It is the specific means of communication in projects.

2.2.1 Types of documentation

The project documentation can be divided in various ways, e.g. The documents relate to individual project phases – pre-project documentation, project

documentation, post-project documentation.

Often distinguishes the design documentation that relates to the project proposal, and recording documentation that records the progress of the project (records, reports, inspections, etc.).

Documentation, which is approved for the project, is valid documentation.

3. Methodology and Data

There are used methods of obtaining information in this paper. These are mainly structured interviews in combination with a brainstorming, furthermore also been used questionnaire for companies dealing with public procurement. Questions are targeted for the project documentation, their demands both time and cost, furthermore also on the expertise of the changes in the current proceedings, or legislative changes.

Public procurements data are obtained from the Ministry for Regional Development in their records of public procurement carried out in the Czech Republic or from statistics published by the Czech statistic office. The data were processed using MS Excel (Figure 2).

4. Results

In the chart above there it is a noticeable effect of a change in the law on public procurement, which leads to a reduction in the number of contracts. This change was also influenced by the necessary project documentation, which must be part of individual

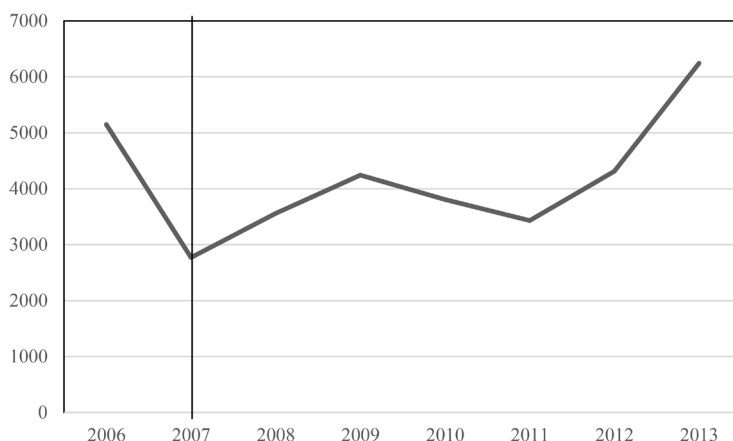


Figure 2. Amount of public procurements. Source: Czech statistical office.

applications. It is necessary therefore to deal with documentation and her creation.

The questionnaires and structured interviews showed that it is necessary to have accurate processing of project documentation, depending on the size of the project. In the critical year were not companies for this change prepared and it led to the errors in creation of documentation or to delay of preparation of public procurement.

Effective (cost and time) recommended partitioning of documentation according the scope of the project should be in Table 1.

For example, at the beginning of our project, we need to create a one-page document called the project charter. This document will make sure that we and our stakeholders understand the general goals of the project. To get this information, have should meet with our stakeholders and ask the following 3 essential questions:

- What are the objectives of our project?
- What do we want to produce or deliver?
- What is the business reason for doing this project?

After the meeting we should write the answers

to these questions in our project charter and email this back to our stakeholders and ask them for their approval. We have now successfully completed the most important aspect of any project, and that is to understand and agree with our stakeholders where we are going with this project. If we look at the time spent to achieve this important step in a project, we are looking at one or two meetings and about 30 minutes to write up the information, say 2 hours in total for a small project.

The plan is the second document. This will include a list of the work that needs to be done (also referred to as the scope of work), who will do it, the cost and time to do this work, and finally a simple review of what will go wrong, known as a risk assessment.

On a regular basis, anything from weekly to monthly, we need to create a progress report and deliver this to our stakeholders. They want to know what work was done, when, and how much was spent. They also want to know if we need their help to solve any problems. Our major challenge is just collecting this information so that we can create our regular progress report.

Table 1. Documentation by a scope of project.

Small project documentation (small project 1–4 months)	Medium project documentation (medium project – max. 12 months)	Large project documentation (large project lasts few months)
Project brief	Project brief	Project brief
Issue list	Issue list	Issue list
Project plan	Project plan	Project plan
	Technical specification	Technical specification
	Quality plan	Quality plan
		Communication plan

Source: Own compilation.

5. Discussion and Conclusions

We can define what the essential project documents are. Understand the few essential brief documents you need to create and regularly review during the life of your project.

Useful recommendation for working with the project documentation:

- The project team should prepare a system for marking documents as well as the system for their filing.
- Some documents (such as schedule, project budget) are processed in different versions, so it must be distinguished either version number, date of processing or otherwise.
- For accounting documents you need to meet the statutory conditions of duration of their archiving and observe their contents.
- Documentation in some projects it is necessary to divide free accessible and classified.

We tried to summarize the advantages and disadvantages of having project documentation. It is possible to define what the advantages of having project documentation are. Project documentation:

- Simplifies issues that can appear during the project implementation.
- Identifies what is the project all about.
- Is considered as an essential communication medium.
- Enables team development.
- Allows standardization of projects.
- Minimalizes delays and exceeding of the budget.

Unfortunately, there are also some disadvantages related to the project documentation. There are some examples:

- Can be too administrative (especially project supported by EU).
- Sometimes low quality.
- Can slow down the project process.
- Causes a rise in project cost due to delays.

Specifically, project documentation focuses on guiding the project team:

- Communicate progress of the project.
- Define the goal and all necessary information of the project.
- Measure items such as scope, time, risk, resources, budget and quality.
- Identify deadlines and deliverables.
- Define the technical parameters.

In the case of public contracts and changes in legislation it is necessary to focus on creating documentation in advance, follow the new requirements and try to reach them in the shortest possible time. It is necessary to deal with higher costs and longer processing times. If they meet the following requirements documentation is minimal risk of failure. Project documentation should be:

- Comprehensive.
- Brief.
- Clear.
- Complete.
- Flawless.
- Effective.

Each document must be clearly identifiable by their name and should have a clear and eloquent title.

References

- Bredillet, C., Turner, J., Anbart, F. (2007). Schools of Thought in Project Management Research. *Project Management Essential Reality for Business and Government*, pp. 389–396.
- Fowler, K. R., Silver, C. L. (2015). *Developing and Managing Embedded Systems and Products*. Oxford: Elsevier.
- Chan, S. (2001). Empirical tests to discern linkages between construction and other economic sectors in Singapore. *Construction Management and Economics*, 19(4), pp. 355–363.
- Jones, D. (2002). Procurement practices in the Singapore civil service: balancing control and delegation. *Journal of Public Procurement*, 2(1), pp. 29–53.
- Juszyk, M., Kozik, R., Leśniak, A., Plebankiewicz, E., Zima, K. (2014). Errors in the preparation of design documentation in public procurement in Poland. *Procedia Engineering*, 85, pp. 283–292.
- Ko, C. H., Li, S. C. (2014). Enhancing submittal review and construction inspection in public projects. *Automation in Construction*, 44, pp. 36–46.
- Kolečák, J., Smolíková, L. (2013). The use of project management tools in the Czech Republic. *Trends Economics and Management*, 7(13), pp. 68–75.
- Ling, F., Tran, P. (2012). Effects of interpersonal relations on public construction contracts in Vietnam. *Construction Management and Economics*, 30(12), pp. 1087–1101.
- Mena, Á., Lopéz, F., Framiñan, J. M., Flores, F., Gallego, J. M. (2010). XPDR project: Improving the project documentation quality in the Spanish architectural, engineering and construction sector. *Automation in Construction*, pp. 270–282.

Ning, Y., Ling, F. (2013). Comparative study of drivers of and barriers to relational transactions faced by public clients, private contractors and consultants in public projects. *Habitat International*, 40, pp. 91–99.

Ofori, G., Han, S. (2003). Testing hypotheses on construction and development using data on China's provinces, 1990–2000. *Habitat International*, 27(1), pp. 37–62.

Spence, R., Mulligan, H. (1995). Sustainable development and the construction industry. *Habitat International*, 19(3), pp. 279–292.

Štěpánková, V. (2014). Variation of public procurements as a risk for construction companies. *16th International Scientific Conference Finance and Risk 2014*. Bratislava.

Zvejšková, M. (2013). Řízení projektů a financí ve výrobních podnicích České republiky. *Trends Economics and Management*, 7(17), pp. 188–196.

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